

ROYAL BANK OF CANADA  
Form 424B2  
January 25, 2019

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PRICING SUPPLEMENT

Filed Pursuant to Rule 424(b)(2)

Registration Statement No. 333-227001

Dated January 24, 2019

Royal Bank of Canada Trigger Absolute Return Autocallable Notes

\$5,050,000 Notes Linked to the Common Stock of Intel Corporation due on January 28, 2021

Investment Description

Trigger Absolute Return Autocallable Notes (the “Notes”) are unconditional, unsecured and unsubordinated debt securities issued by Royal Bank of Canada linked to the performance of the common stock of Intel Corporation (the “Underlying Equity”). If the Underlying Equity closes at or above its closing price on January 23, 2019 (the “Initial Underlying Price”) on any Observation Date (which will occur first on or about April 23, 2019 and then quarterly thereafter as described on page 4 of this pricing supplement), we will automatically call the Notes and pay you a Call Price equal to the principal amount per Note plus a Call Return based on the Call Return Rate. The Call Return increases the longer the Notes are outstanding, as described below. If by maturity the Notes have not been called, and the closing price of one unit of the Underlying Equity closes at or above the Downside Threshold on the final Observation Date, we will repay the principal amount plus pay you a return at maturity equal to the absolute value of the percentage decline in the price of the Underlying Equity from the Initial Underlying Price to its closing price on the final Observation Date (the “Contingent Absolute Return”). If by maturity the Notes have not been called and the Underlying Equity closes below the Downside Threshold on the final Observation Date, the Contingent Absolute Return will not apply, and we will repay less than the principal amount, if anything, resulting in a loss that is proportionate to the decline in the price of the Underlying Equity from the Initial Underlying Price to its closing price on the final Observation Date, up to a 100% loss of your principal amount invested. The Notes are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act. Investing in the Notes involves significant risks. The Notes do not pay interest. You may lose some or all of your principal amount. Generally, the higher the Call Return Rate on a Note, the greater the risk of loss on that Note. The Contingent Absolute Return and any contingent repayment of principal apply only if you hold the Notes to maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness and is not, either directly or indirectly, an obligation of any third party. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire principal amount. The Notes will not be listed on any securities exchange.

Features Key Dates

Call Return - We will automatically call the Notes for a Call Price equal to the principal amount plus the applicable Call Return based on the Call Return Rate if the closing price of the Underlying Equity on any Observation Date is equal to or greater than the Initial Underlying Price. The Call Return increases the longer the Notes are outstanding. If the Notes are not called, investors will have the potential for downside market exposure to the Underlying Equity at maturity if the Final Underlying Price is less than the Initial Underlying Price.

Contingent Absolute Return at Maturity - If you hold the Notes to maturity, the Notes have not been called on any Observation Date including the final Observation Date and the Underlying Equity closes above or equal to the Downside Threshold on the final Observation Date, we will pay your full principal amount plus the Contingent Absolute Return. If the Underlying Equity closes below the Downside Threshold on the final Observation Date, the Contingent Absolute Return will not apply and we will pay less than your principal amount, if anything, resulting in a loss of your principal amount that will be proportionate to the full negative Underlying Return. The Contingent Absolute Return and any contingent repayment of principal only applies if you hold the Notes to maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness.

Trade Date January 24, 2019

Settlement Date January 29, 2019

Observation Dates Quarterly (see page 4 for details)  
 Final Observation Date<sup>1</sup> January 25, 2021  
 Maturity Date<sup>1</sup> January 28, 2021

<sup>1</sup> Subject to postponement if a market disruption event occurs, as described under “General Terms of the Securities – Market Disruption Events” in the accompanying product prospectus supplement no. UBS-TAS-2.

NOTICE TO INVESTORS: THE NOTES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. THE ISSUER IS NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE NOTES AT MATURITY, AND THE NOTES CAN HAVE DOWNSIDE MARKET RISK SIMILAR TO THE UNDERLYING EQUITY. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING OUR DEBT OBLIGATION. YOU SHOULD NOT PURCHASE THE NOTES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE NOTES.

YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER “KEY RISKS” BEGINNING ON PAGE 6 AND UNDER “RISK FACTORS” BEGINNING ON PAGE PS-4 OF THE PRODUCT PROSPECTUS SUPPLEMENT NO. UBS TAS-2 BEFORE PURCHASING ANY NOTES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR NOTES. YOU MAY LOSE SOME OR ALL OF THE PRINCIPAL AMOUNT OF THE NOTES.

#### Notes Offering

This pricing supplement relates to Trigger Absolute Return Autocallable Optimization Notes linked to the performance of the common stock of Intel Corporation. The Initial Underlying Price and the Downside Threshold were determined on January 23, 2019. The Call Prices for each Observation Date is set forth under “Final Terms of the Notes – Call Return/Call Return Rate” on page 4 of this pricing supplement. The Notes are offered at a minimum investment of 100 Notes at \$10.00 per Note (representing a \$1,000 investment), and integral multiples of \$10.00 in excess thereof.

Underlying Equity	Call Return Rate	Initial Underlying Price	Downside Threshold	CUSIP	ISIN
Intel Corporation (INTC)	15.90% per annum	\$47.94	\$35.96, which is 75% of the Initial Underlying Price (rounded to two decimal places)	78014H219US	78014H2195

See “Additional Information About Royal Bank of Canada and the Notes” in this pricing supplement. The Notes will have the terms specified in the prospectus dated September 7, 2018, the prospectus supplement dated September 7, 2018, product prospectus supplement no. UBS-TAS-2 dated September 7, 2018 and this pricing supplement. Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying prospectus, prospectus supplement and product prospectus supplement no. UBS-TAS-2. Any representation to the contrary is a criminal offense.

Offering of the Notes	Price to Public <sup>(1)</sup>		Fees and Commissions <sup>(1)</sup>		Proceeds to Us	
	Total	Per Note	Total	Per Note	Total	Per Note
Trigger Absolute Return Autocallable Notes Linked to the Common Stock of Intel Corporation	\$5,050,000.00	\$10.00	\$75,750.00	\$0.15	\$4,974,250.00	\$9.85

<sup>(1)</sup> UBS Financial Services Inc., which we refer to as UBS, will receive a commission of \$0.15 per \$10 principal amount. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

The initial estimated value of the Notes as of the date of this document is \$9.9839 per \$10 in principal amount for the Notes, which is less than the price to public. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value under “Key Risks,” “Supplemental Plan of Distribution (Conflicts of Interest)” and “Structuring the Notes”

below.

The Notes will not constitute deposits insured under the Canada Deposit Insurance Corporation Act or by the United States Federal Deposit Insurance Corporation or any other Canadian or United States government agency or instrumentality.

UBS Financial Services Inc. RBC Capital Markets, LLC

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Additional Information About Royal Bank of Canada and the Notes

You should read this pricing supplement together with the prospectus dated September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018, relating to our Series H medium-term notes of which these Notes are a part, and the more detailed information contained in product prospectus supplement no. UBS-TAS-2 dated September 7, 2018. This pricing supplement, together with the documents listed below, contains the terms of the Notes and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Risk Factors” in the accompanying product prospectus supplement no. UBS-TAS-2, as the Notes involve risks not associated with conventional debt securities.

If the terms discussed in this pricing supplement differ from those discussed in the product prospectus supplement no. UBS-TAS-2, the prospectus supplement, or the prospectus, the terms discussed herein will control.

You may access these on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if such address has changed, by reviewing our filing for the relevant date on the SEC website):

..Product prospectus supplement no. UBS-TAS-2 dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038058/form424b5.htm>

..Prospectus supplement dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm>

..Prospectus dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/l96181424b3.htm>

As used in this pricing supplement, “we,” “us” or “our” refers to Royal Bank of Canada.

### Investor Suitability

The Notes may be suitable for you if, among other considerations:

- .. You fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- .. You can tolerate the loss of all or a substantial portion of your investment and are willing to make an investment that may have similar downside market risk as the Underlying Equity.
- .. You are willing to accept the risks of investing in equities in general and in the Underlying Equity in particular. You believe the Underlying Equity will close at or above the Initial Underlying Price on any one of the specified
- .. Observation Dates, including the final Observation Date, or you believe the Underlying Equity will not close below the Downside Threshold on the final Observation Date.
- .. You can tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside price fluctuations of the Underlying Equity.
- .. You are willing to hold Notes that will be called on the earliest Observation Date on which the Underlying Equity closes at or above the Initial Underlying Price, or you are otherwise willing to hold such Notes to maturity. You are willing to make an investment whose return is limited to the Call Return, regardless of the potential
- .. appreciation of the Underlying Equity, which could be significant, or, if the Notes have not been called, to the Contingent Absolute Return (as limited by the Downside Threshold).
- .. You are willing to invest in the Notes based on the Call Return Rate indicated on the cover page of this pricing supplement. You are willing to invest in Notes for which there may be little or no secondary market and you accept that the
- .. secondary market will depend in large part on the price, if any, at which RBC Capital Markets, LLC, which we refer to as "RBCCM," is willing to purchase the Notes.
- .. You do not seek current income from this investment and are willing to forgo any dividends paid on the Underlying Equity.
- .. You are willing to assume our credit risk for all payments under the Notes, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

The Notes may not be suitable for you if, among other considerations:

- .. You do not fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- .. You cannot tolerate the loss of all or a substantial portion of your investment, and you are not willing to make an investment that may have similar downside market risk as the Underlying Equity.
- .. You are unwilling to accept the risks of investing in equities in general or in the Underlying Equity in particular. You do not believe the Underlying Equity will close at or above the Initial Underlying Price on any one of the
- .. specified Observation Dates, including the final Observation Date, or you believe the Underlying Equity will close below the Downside Threshold on the final Observation Date exposing you to the full downside performance of the Underlying Equity.
- .. You seek an investment that is designed to provide a full return of principal at maturity. You seek an investment that participates in the full performance of the Underlying Equity and whose positive return
- .. is not limited to the applicable Call Return, or, if the Notes have not been called, to the Contingent Absolute Return (as limited by the Downside Threshold).
- .. You are unwilling to invest in the Notes based on the Call Return Rate indicated on the cover page of this pricing supplement. You are unable or unwilling to hold Notes that will be called on the earliest Observation Date on which the
- .. Underlying Equity closes at or above the Initial Underlying Price, or you are otherwise unable or unwilling to hold such Notes to maturity.
- .. You seek an investment for which there will be an active secondary market.
- .. You seek current income from your investment, or prefer to receive any dividends paid on the Underlying Equity.
- .. You prefer the lower risk, and therefore accept the potentially lower returns, of conventional fixed income investments with comparable maturities and credit ratings.

.. You cannot tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside price fluctuations of the Underlying Equity.

.. You are not willing to assume our credit risk for all payments under the Notes, including any repayment of principal. The suitability considerations identified above are not exhaustive. Whether or not the Notes are a suitable investment for you will depend on your individual circumstances, and you should reach an investment decision only after you and your investment, legal, tax, accounting, and other advisers have carefully considered the suitability of an investment in the Notes in light of your particular circumstances. You should also review carefully the “Key Risks” below and “Risk Factors” in the accompanying product prospectus supplement no. UBS-TAS-2 for risks related to an investment in the Notes.

Final Terms of the Notes<sup>1</sup>

Issuer:	Royal Bank of Canada
Principal Amount per Note:	\$10 per Note (subject to a minimum purchase of 100 Notes or \$1,000)
Term:	Approximately two years, unless called earlier
Underlying Equity: <sup>2</sup>	The common stock of Intel Corporation
Call Feature:	The Notes will be called if the Closing Price of the Underlying Equity on any Observation Date is at or above its Initial Underlying Price. If the Notes are called, we will pay you on the applicable Call Settlement Date a cash payment per \$10 principal amount equal to the Call Price for the applicable Observation Date.
Observation Dates: <sup>2</sup>	The first Observation Date will occur on or about April 23, 2019; Observation Dates will occur quarterly thereafter on or about July 23, 2019, October 23, 2019, January 23, 2020, April 23, 2020, July 23, 2020, October 23, 2020 and January 25, 2021 (the “final Observation Date” <sup>3</sup> ).
Call Settlement Dates:	Three (3) business days following the applicable Observation Date, except that the Call Settlement Date for the final Observation Date is the Maturity Date.
Call Price:	The Call Price will be calculated based on the following formula: \$10 + (\$10 x Call Return)
Call Return / Call Return Rate:	The Call Price will be based upon the Call Return. The Call Return increases the longer the Notes are outstanding and will be based on the Call Return Rate of 15.90% per annum. The Call Return will be a fixed amount based upon equal quarterly installments at the Call Return Rate, which is a per annum rate. The following table sets forth each Observation Date, each Call Settlement Date and the corresponding Call Price for the Notes.

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<sup>1</sup> Terms used in this pricing supplement, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.

<sup>2</sup> For a description of adjustments that may affect the Underlying Equity, see “General Terms of the Securities” in the product prospectus supplement no. UBS-TAS-2.

<sup>3</sup> Subject to postponement if a market disruption event occurs, as described under “General Terms of the Securities – Market Disruption Events” in the accompanying product prospectus supplement no. UBS-TAS-2.

Observation Dates Call Settlement Dates Call Price

April 23, 2019	April 26, 2019	\$10.3975
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July 23, 2019	July 26, 2019	\$10.7950
October 23, 2019	October 28, 2019	\$11.1925
January 23, 2020	January 28, 2020	\$11.5900
April 23, 2020	April 28, 2020	\$11.9875
July 23, 2020	July 28, 2020	\$12.3850
October 23, 2020	October 28, 2020	\$12.7825
January 25, 2021	January 28, 2021	\$13.1800

If the Notes are not called and the Final Underlying Price of the Underlying Equity is above or equal to the Downside Threshold on the final Observation Date, we will pay you a cash payment on the Maturity Date per Note equal to:

$\$10 \times (1 + \text{Contingent Absolute Return})$

Payment at Maturity (per Note): If the Notes are not called and the Final Underlying Price is below the Downside Threshold on the final Observation Date, then the Contingent Absolute Return will not apply, and we will pay you a cash payment on the Maturity Date that is less than your principal amount, if anything, resulting in a loss that is proportionate to the negative Underlying Return, equal to:

$\$10 \times (1 + \text{Underlying Return})$

Accordingly, you may lose all or a substantial portion of your principal at maturity, depending on how much the Underlying Equity declines.

Underlying Return: Final Underlying Price - Initial Underlying Price

Downside Threshold: Initial Underlying Price

\$35.96, which is 75% of the Initial Underlying Price of the Underlying Equity (rounded to two decimal places).

Contingent Absolute Return: The absolute value of the Underlying Return. For example, if the Underlying Return is -5%, the Contingent Absolute Return will equal 5%.

Initial Underlying Price:

\$47.94, which was the closing price of the Underlying Equity on January 23, 2019.

Final Underlying Price:

The closing price of the Underlying Equity on the final Observation Date.

Closing Price: On any trading day, the last reported sale price of the Underlying Equity on the principal national securities exchange on which it is listed for trading, as determined by the calculation agent.



Investment Timeline

Trade Date: The Call Return Rate was set.

The Notes will be called if the closing price of the Underlying Equity on any Observation Date is equal to or greater than the Initial Underlying Price.

Quarterly: If the Notes are called, we will pay the Call Price for the applicable Observation Date, equal to the principal amount plus the applicable Call Return.

The Final Underlying Price of the Underlying Equity is observed on the final Observation Date. If the Notes have not been called and the Final Underlying Price is equal to or greater than the Downside Threshold, we will repay an amount in cash equal to:

Maturity Date:  $\$10 \times (1 + \text{Contingent Absolute Return})$

If the Notes have not been called and the Final Underlying Price is less than the Downside Threshold, then the Contingent Absolute Return will not apply, and we will repay less than the principal amount, if anything, resulting in a loss proportionate to the decline of the Underlying Equity, equal to a return of:  $\$10.00 \times (1 + \text{Underlying Return})$  per Note

INVESTING IN THE NOTES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR ALL OF YOUR PRINCIPAL AMOUNT. ANY PAYMENT ON THE NOTES, INCLUDING ANY REPAYMENT OF PRINCIPAL, IS SUBJECT TO OUR CREDITWORTHINESS. IF WE WERE TO DEFAULT ON OUR PAYMENT OBLIGATIONS, YOU MAY NOT RECEIVE ANY AMOUNTS OWED TO YOU UNDER THE NOTES AND YOU COULD LOSE YOUR ENTIRE PRINCIPAL AMOUNT.

## Key Risks

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Underlying Equity. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement no. UBS-TAS-2. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Notes.

### Risks Relating to the Notes Generally

**You May Lose Some or All of Your Principal:** The Notes differ from ordinary debt securities in that we will not necessarily pay the full principal amount at maturity. The return on the Notes depends on whether the Underlying Equity closes at or above the Initial Underlying Price on an Observation Date, and if the Notes are not called, whether the Final Underlying Price of the Underlying Equity is greater than or equal to the Downside Threshold. If the Notes are not called, we will only pay you the principal amount of your Notes, plus the Contingent Absolute Return, if the Final Underlying Price of the Underlying Equity is greater than or equal to the Downside Threshold, and will only make such payment at maturity. If the Notes are not called and the Final Underlying Price is less than the Downside Threshold, the Contingent Absolute Return will not apply and you will lose some or all of your principal amount in an amount proportionate to the negative Underlying Return.

**The Call Feature and the Downside Threshold Limit Your Potential Return:** The return potential of the Notes if the Notes are called as of any Observation Date is limited to the applicable Call Return, regardless of the appreciation of the Underlying Equity, which may be significant. Therefore, you may receive a lower payment if the Notes are automatically called or at maturity, as the case may be, than you would have if you had invested directly in the Underlying Equity. In addition, because the Call Return increases the longer the Notes are outstanding, the Call Price payable on the first Observation Date is less than the Call Price payable on later Observation Dates. As the Notes could be called as early as the first Observation Date, the total return on the Notes could be minimal.

If the Notes are not called, and the Final Underlying Price is greater than or equal to the Downside Threshold, your return at maturity will be limited to the absolute value of the decline in the price of the Underlying Equity up to the Downside Threshold. Accordingly, this payment will not exceed the percentage by which the Downside Threshold is less than the Initial Underlying Price. You will not receive the Contingent Absolute Return, and will lose some or all of your principal amount, if the Notes are not called and the Final Underlying Price is less than the Downside Threshold.

**No Periodic Interest Payments:** We will not pay any interest with respect to the Notes.

**Reinvestment Risk:** If your Notes are called early, the holding period over which you would receive the per annum Call Return Rate could be as little as three months. There is no guarantee that you would be able to reinvest the proceeds from an investment in the Notes in a comparable investment with a similar level of risk in the event the Notes are called prior to the Maturity Date.

**Contingent Absolute Return Applies Only at Maturity:** You should be willing to hold your Notes to maturity. If you are able to sell your Notes prior to maturity in the secondary market, if any, you may have to sell your Notes at a loss relative to your initial investment, even if the price of the Underlying Equity is above the Downside Threshold. If at maturity the Notes have not been called, we will repay you the full principal amount per Note plus the Contingent Absolute Return, unless the price of the Underlying Equity closes below the Downside Threshold on the final Observation Date. Under these circumstances, the Contingent Absolute Return will not apply and we will repay less than the principal amount, if anything, resulting in a loss that is proportionate to the decline in the price of the Underlying Equity from the date that the Initial Underlying Price was determined to the final Observation Date. The Contingent Absolute Return and any contingent repayment of principal are based on whether the Final Underlying Price is below the Downside Threshold and apply only if you hold your Notes to maturity.

**The Call Return Rate and the Probability that the Final Underlying Price Will Fall Below the Downside Threshold on the Final Observation Date Will Reflect in Part the Volatility of the Underlying Equity:** “Volatility” refers to the frequency and magnitude of changes in the price of the Underlying Equity. The greater the volatility of the Underlying Equity, the more likely it is that the price of that Underlying Equity could close below the Downside Threshold on the final Observation Date. This risk will generally be reflected in a higher Call Return Rate for the Notes than the return payable on our conventional debt securities with a comparable term. However, while the Call Return Rate is set on the Trade Date, the Underlying Equity’s volatility can change significantly over the term of the

Notes, and may increase. The price of the Underlying Equity could fall sharply as of the final Observation Date, which could result in a significant loss of your initial investment.

**Credit Risk of Royal Bank of Canada:** The Notes are our unsubordinated and unsecured debt obligations and are not, either directly or indirectly, an obligation of any third party. Any payment to be made on the Notes, including payments in respect of an automatic call or any repayment of principal, depends on our ability to satisfy our obligations as they come due. As a result, our actual and perceived creditworthiness may affect the market value of the Notes and, in the event we were to default on our obligations, you may not receive any amounts owed to you under the terms of the Notes and you could lose your entire investment.

**The Notes Will be Subject to Risks, Including Non-Payment in Full, Under Canadian Bank Resolution Powers:** Under Canadian bank resolution powers, the Canada Deposit Insurance Corporation (“CDIC”) may, in circumstances where we have ceased, or are about to cease, to be viable, assume temporary control or ownership over us and may be granted broad powers by one or more orders of the Governor in Council (Canada), including the power to sell or dispose of all or a part of our assets, and the power to carry out or cause us to carry out a transaction or a series of transactions the purpose of which is to restructure our business of the Bank. As See “Description of Debt Securities Canadian Bank Resolution Powers” in the accompanying prospectus for a description of the Canadian bank resolution powers, including the bail-in regime. If the CDIC were to take action under the Canadian bank resolution powers with respect to us, this could result in holders of the Notes being exposed to losses.

**Single Stock Risk:** The price of the Underlying Equity can rise or fall sharply due to factors specific to the Underlying Equity and its issuer, such as stock price volatility, earnings, financial conditions, corporate, industry and regulatory developments, management changes and decisions and other events, as well as general market factors, such as general stock market volatility and levels, interest rates and economic and political conditions. You, as an investor in the Notes, should make your own investigation into the issuer of the Underlying Equity and the Underlying Equity. We urge you to review financial and other information filed periodically by the issuer with the SEC.

**Dividend Payments or Voting Rights:** As a holder of the Notes, you will not have voting rights, rights to receive cash dividends or other distributions, or any other rights that holders of the Underlying Equity would have.

**Owning the Notes Is Not the Same as Owning the Underlying Equity:** The return on your Notes may not reflect the return you would realize if you actually owned the Underlying Equity. For instance, you will not receive or be entitled to receive any dividend payments or other distributions over the term of the Notes, which could constitute significant returns to actual owners of the Underlying Equity. Furthermore, the Underlying Equity may appreciate substantially during the term of the Notes, while your potential return, if called, will be limited to the applicable Call Return.

**There Is No Affiliation Between the Underlying Equity Issuer and RBCCM, and RBCCM Is Not Responsible for any Disclosure by the Underlying Equity Issuer:** We are not affiliated with the Underlying Equity issuer. However, we and our affiliates may currently, or from time to time in the future engage in business with the Underlying Equity issuer. Nevertheless, neither we nor our affiliates assume any responsibility for the accuracy or the completeness of any information about the Underlying Equity and the Underlying Equity issuer. You, as an investor in the Notes, should make your own investigation into the Underlying Equity and the Underlying Equity issuer for your Notes. The Underlying Equity issuer is not involved in this offering and has no obligation of any sort with respect to your Notes. The Underlying Equity issuer has no obligation to take your interests into consideration for any reason, including when taking any corporate actions that might affect the value of your Notes.

**Lack of Liquidity:** The Notes will not be listed on any securities exchange. RBCCM intends to offer to purchase the Notes in the secondary market, but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the Notes easily. Because other dealers are not likely to make a secondary market for the Notes, the price at which you may be able to trade your Notes is likely to depend on the price, if any, at which RBCCM is willing to buy the Notes.

**The Initial Estimated Value of the Notes Is Less than the Price to the Public:** The initial estimated value for the Notes that is set forth on the cover page of this document is less than the public offering price you pay for the Notes, and does not represent a minimum price at which we, RBCCM or any of our other affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the price of the Underlying Equity, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount, and our estimated profit and the costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than the price to public, as any such sale price would not be expected to include the underwriting discount and our estimated profit and the costs relating to our hedging of the Notes. In addition, any price at which you may sell the Notes is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on a secondary market rate rather than the internal borrowing rate used to price the Notes and determine the initial estimated value. As a result, any secondary price will be less than if the internal borrowing rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

**Our Initial Estimated Value of the Notes Is an Estimate Only, Calculated as of the Time the Terms of the Notes Are Set:** The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do. The value of the Notes at any time after the Trade Date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes.

**Potential Conflicts:** We and our affiliates play a variety of roles in connection with the issuance of the Notes, including hedging our obligations under the Notes. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the Notes.

**Potentially Inconsistent Research, Opinions or Recommendations by RBCCM, UBS or Their Affiliates:** RBCCM, UBS or their affiliates may publish research, express opinions or provide recommendations as to the Underlying Equity that are inconsistent with investing in or holding the Notes, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlying Equity, and therefore the market

value of the Notes.

..Uncertain Tax Treatment: Significant aspects of the tax treatment of an investment in the Notes are uncertain. You should consult your tax adviser about your tax situation.

Potential Royal Bank of Canada and UBS Impact on Price: Trading or other transactions by us, UBS or our ..respective affiliates in the Underlying Equity, or in futures, options, exchange-traded funds or other derivative products on the Underlying Equity may adversely affect the market value of the Underlying Equity, the closing price of the Underlying Equity, and, therefore, the market value of the Notes.

The Terms of the Notes Were Influenced at Issuance and Their Market Value Prior to Maturity Will Be Influenced by Many Unpredictable Factors: Many economic and market factors influenced the terms of the Notes at issuance and will influence their value prior to maturity. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the Notes, including a ..combination of a bond with one or more options or other derivative instruments. For the market value of the Notes, we expect that, generally, the price of the Underlying Equity on any trading day will affect the value of the Notes more than any other single factor. However, you should not expect the value of the Notes in the secondary market to vary in proportion to changes in the price of the Underlying Equity. The value of the Notes will be affected by a number of other factors that may either offset or magnify each other, including:

..the actual and expected volatility of the price of the Underlying Equity;

..the time remaining to maturity of the Notes;

..the dividend rate on the Underlying Equity;

.. interest and yield rates in the market generally;

..a variety of economic, financial, political, regulatory or judicial events;

..the occurrence of certain events relating to the Underlying Equity that may or may not require an adjustment to the terms of the Notes; and

..our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors influenced the terms of the Notes at issuance, and will also influence the price you will receive if you choose to sell the Notes prior to maturity. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors. You may have to sell the Notes at a substantial discount from the principal amount if the price of the Underlying Equity is at, below or not sufficiently above, the Downside Threshold.

The Anti-Dilution Protection for the Underlying Equity Is Limited: The calculation agent will make adjustments to the Initial Underlying Price and the Downside Threshold for certain events affecting the Underlying Equity.

However, the calculation agent will not be required to make an adjustment in response to all events that could affect the Underlying Equity. If an event occurs that does not require the calculation agent to make an adjustment, the value of the Notes and the payments on the Notes may be materially and adversely affected.

## Hypothetical Examples

Hypothetical terms only. Actual terms may vary. See the cover page for actual offering terms.

The examples below illustrate the payment upon a call or at maturity for a \$10 Note in a hypothetical offering of the Notes, with the following assumptions:\*

Principal Amount:	\$10
Term:	2 years
Hypothetical Initial Underlying Price:	\$100.00
Call Return Rate:	15.90% per annum (or 3.975% per quarterly period)
Observation Dates:	Observation Dates will occur quarterly as set forth under "Final Terms of the Notes" in this pricing supplement.
Hypothetical Downside Threshold:	\$75.00 (which is 75% of the Initial Underlying Price)

\* Not the actual Initial Underlying Price or Downside Threshold applicable to the Notes. The actual Initial Underlying Price and Downside Threshold are set forth on the cover of this pricing supplement.

## Example 1 - Notes are Called on the First Observation Date

Closing Price at first Observation Date:	\$105.00 (at or above Initial Underlying Price, Notes are called)
Call Price (per \$10.00):	\$10.3975

Because the Notes are called on the first Observation Date, we will pay you on the Call Settlement Date a total Call Price of \$10.3975 per \$10.00 principal amount (a 3.975% total return on the Notes).

## Example 2 - Notes are Called on the final Observation Date

Closing Price at first Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at second Observation Date:	\$90.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at third Observation Date:	\$85.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fourth Observation Date:	\$87.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fifth Observation Date:	\$89.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at sixth Observation Date:	\$92.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at seventh Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at final Observation Date:	\$105.00 (at or above Initial Underlying Price, Notes are called)
Call Price (per \$10.00):	\$13.18

Because the Notes are called on the final Observation Date, we will pay you on the Call Settlement Date (which coincides with the Maturity Date in this example) a total Call Price of \$13.18 per \$10.00 principal amount (a 31.80% total return on the Notes).

## Example 3 - Notes are NOT Called and the Final Underlying Price is above the Downside Threshold on the final Observation Date

Closing Price at first Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at second Observation Date:	\$90.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at third Observation Date:	\$85.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fourth Observation Date:	\$87.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fifth Observation Date:	\$89.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at sixth Observation Date:	\$92.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at seventh Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at final Observation Date:	\$90.00 (below Initial Underlying Price, but above Downside Threshold, Notes NOT called)

Date: NOT called)  
\$10.00 × (1 + Contingent Absolute Return)  
Payment at Maturity (per \$10.00): \$10.00 × (1 + 10%)  
\$11.00

Because the Notes are not called and the Underlying Return is -10.00%, but the Final Underlying Price is above the Downside Threshold on the final Observation Date, we will pay you at maturity a total of \$11.00 per \$10.00 principal amount (a 10.00% return on the Notes). Accordingly, even though the price of the Underlying Equity has decreased, you will receive a positive return on the Notes.



Example 4 - Notes are NOT Called and the Final Underlying Price is below the Downside Threshold on the final Observation Date

Closing Price at first Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at second Observation Date:	\$90.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at third Observation Date:	\$85.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fourth Observation Date:	\$87.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at fifth Observation Date:	\$89.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at sixth Observation Date:	\$92.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at seventh Observation Date:	\$95.00 (below Initial Underlying Price, Notes NOT called)
Closing Price at final Observation Date:	\$50.00 (below Initial Underlying Price and Downside Threshold, Notes NOT called)
	$\$10.00 \times (1 + \text{Underlying Return})$
Payment at Maturity (per \$10):	$\$10.00 \times (1 - 50\%)$
	\$5.00

Because the Notes are not called and the Final Underlying Price is below the Downside Threshold on the final Observation Date, we will pay you at maturity a total of \$5.00 per \$10.00 principal amount (a 50.00% loss on the Notes).

## What Are the Tax Consequences of the Notes?

### U.S. Federal Income Tax Consequences

Set forth below, together with the discussion of U.S. federal income tax in the accompanying product prospectus supplement, prospectus supplement, and prospectus, is a summary of the material U.S. federal income tax consequences relating to an investment in the Notes. The following summary is not complete and is qualified in its entirety by the discussion under the sections entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement, the section “Tax Consequences” in the accompanying prospectus and the section entitled “Certain Income Tax Consequences” in the accompanying prospectus supplement, which you should carefully review prior to investing in the Notes.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat the Notes as callable pre-paid cash-settled derivative contracts linked to the Underlying Equity for U.S. federal income tax purposes, and the terms of the Notes require a holder and us (in the absence of a change in law or an administrative or judicial ruling to the contrary) to treat the Notes for all tax purposes in accordance with such characterization. If the Notes are so treated, a holder should generally recognize capital gain or loss upon the call, sale or maturity of the Notes in an amount equal to the difference between the amount a holder receives at such time and the holder’s tax basis in the Notes. Capital gain recognized by an individual U.S. holder is generally taxed at preferential rates where the property is held for more than one year and is generally taxed at ordinary income rates where the property is held for one year or less. The deductibility of capital losses is subject to limitations.

Alternative tax treatments are also possible and the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. In addition, the Internal Revenue Service has released a notice that may affect the taxation of holders of the Notes. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of an instrument such as the Notes should be required to accrue ordinary income on a current basis. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the Notes will ultimately be required to accrue income currently and this could be applied on a retroactive basis. The Internal Revenue Service and the U.S. Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special “constructive ownership rules” of Section 1260 of the Code might be applied to such instruments. Holders are urged to consult their tax advisors concerning the significance, and the potential impact, of the above considerations.

Individual holders that own “specified foreign financial assets” may be required to include certain information with respect to such assets with their U.S. federal income tax return. You are urged to consult your own tax advisor regarding such requirements with respect to the Notes.

Under Section 871(m) of the Code, a “dividend equivalent” payment is treated as a dividend from sources within the United States. Such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments (“ELIs”) that are “specified ELIs” may be treated as dividend equivalents if such specified ELIs reference an interest in an “underlying security,” which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the Internal Revenue Service has issued guidance that states that the U.S. Treasury Department and the Internal Revenue Service intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2021. Based on our determination that the Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Underlying Equity or the Notes, and following such occurrence the Notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Underlying Equity or the Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

The accompanying product prospectus supplement notes that FATCA withholding on payments of gross proceeds from a sale or redemption of Notes will only apply to payments made after December 31, 2018. That discussion is modified to reflect regulations proposed by the U.S. Treasury Department in December 2018 indicating an intent to eliminate the requirement under FATCA of withholding on gross proceeds of the disposition of financial instruments. The U.S. Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization. Prospective investors are urged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in the Notes.

Please see the discussion under the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement for a further discussion of the U.S. federal income tax consequences of an investment in the Notes.

#### Canadian Federal Income Tax Consequences

For a discussion of the material Canadian federal income tax consequences relating to an investment in the Notes, please see the section entitled “Tax Consequences” in the accompanying prospectus, which you should carefully review prior to investing in the Notes.

### Information About the Underlying Equity

Included on the following pages is a brief description of the issuer of the Underlying Equity. This information has been obtained from publicly available sources. Set forth below is a table that provides the quarterly high, low and period-end closing prices for the Underlying Equity. We obtained the closing price information set forth below from the Bloomberg Professional® service (“Bloomberg”) without independent verification. You should not take the historical prices of the Underlying Equity as an indication of future performance.

The Underlying Equity is registered under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Companies with securities registered under the Exchange Act are required to file financial and other information specified by the SEC periodically. Information filed by the Underlying Equity issuer with the SEC can be reviewed electronically through a website maintained by the SEC. The address of the SEC’s website is <http://www.sec.gov>. Information filed with the SEC by the Underlying Equity issuer under the Exchange Act can be located by reference to its SEC Central Index Key (“CIK”) number provided below. Information from outside sources is not incorporated by reference in, and should not be considered part of, this pricing supplement or any accompanying prospectus or prospectus supplement. We have not independently verified the accuracy or completeness of the information contained in outside sources.

#### Intel Corporation

According to publicly available information, Intel Corporation designs, manufactures, and sells computer components and related products. The company major products include microprocessors, chipsets, embedded processors and microcontrollers, flash memory, graphic, network and communication, systems management software, conferencing, and digital imaging products.

Information filed by the company with the SEC under the Exchange Act can be located by reference to its SEC CIK number: 50863. The company’s common stock is listed on the Nasdaq Global Select Market under the ticker symbol “INTC.”

#### Historical Information

The graph below illustrates the performance of this Underlying Equity from January 23, 2009 to January 23, 2019, based on the Initial Underlying Price of \$47.94, which was its closing price on January 23, 2019, and a Downside Threshold equal to \$35.96, which was 75% of the Initial Underlying Price, rounded to two decimal places.

n Downside Threshold = 75.00% of the Initial Underlying Price

**HISTORIC PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE.**

Source: Bloomberg L.P. We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets.

#### Supplemental Plan of Distribution (Conflicts of Interest)

We have agreed to indemnify UBS Financial Services Inc. and RBCCM against liabilities under the Securities Act of 1933, as amended, or to contribute payments that UBS Financial Services Inc. and RBCCM may be required to make relating to these liabilities as described in the prospectus supplement and the prospectus. We have agreed that UBS Financial Services Inc. may sell all or a part of the Notes that it will purchase from us to investors at the price to public or to its affiliates at the price indicated on the cover of this pricing supplement.

Subject to regulatory constraints and market conditions, RBCCM intends to offer to purchase the Notes in the secondary market, but it is not required to do so.

We or our affiliates may enter into swap agreements or related hedge transactions with one of our other affiliates or unaffiliated counterparties in connection with the sale of the Notes and RBCCM and/or an affiliate may earn additional income as a result of payments pursuant to the swap or related hedge transactions. See “Use of Proceeds and Hedging” in the accompanying product prospectus supplement no. UBS-TAS-2.

We expect to deliver the Notes on a date that is greater than two business days following the Trade Date. Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the Notes more than two business days prior to the original issue date will be required to specify alternative settlement arrangements to prevent a failed settlement.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately 6 months after the issue date of the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM’s estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and our hedging costs and profits; however, the value of the Notes shown on your account statement during that period may be a higher amount, reflecting the addition of the underwriting discount and our estimated costs and profits from hedging the Notes. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value. This period may be reduced at RBCCM’s discretion based on a variety of factors, including but not limited to, the amount of the Notes that we repurchase and our negotiated arrangements from time to time with UBS. For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated September 7, 2018.

#### Structuring the Notes

The Notes are our debt securities, the return on which is linked to the performance of the Underlying Equity. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Notes at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than the secondary market rate is a factor that resulted in a higher initial estimated value of the Notes at the time their terms are set than if the secondary market rate was used. Unlike the estimated value included on the cover of this document, any value of the Notes determined for purposes of a secondary market transaction may be based on a different borrowing rate, which may result in a lower value for the Notes than if our initial internal borrowing rate were used.

In order to satisfy our payment obligations under the Notes, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of the Underlying Equity, and the tenor of the Notes. The economic terms of the Notes and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduced the economic terms of the Notes to you. The initial offering price of the Notes also reflects the underwriting commission and our estimated hedging costs. These factors resulted

in the initial estimated value for the Notes on the Trade Date being less than their public offering price. See “Key Risks—The Initial Estimated Value of the Notes Is Less than the Price to the Public” above.

#### Terms Incorporated in Master Note

The terms appearing above under the caption “Final Terms of the Notes” and the provisions in the accompanying product prospectus supplement no. UBS-TAS-2 dated September 7, 2018 under the caption “General Terms of the Securities,” are incorporated into the master note issued to DTC, the registered holder of the Notes.

#### Validity of the Notes

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Notes or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors’ rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee’s authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated September 7, 2018, which has been filed as Exhibit 5.1 to Royal Bank’s Form 6-K filed with the SEC dated September 7, 2018. In the opinion of Morrison & Foerster LLP, when the Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes will be valid, binding and enforceable obligations of Royal Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors’ rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee’s authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel’s reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated September 7, 2018, which has been filed as Exhibit 5.2 to the Bank’s Form 6-K dated September 7, 2018.